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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/916,929	07/26/2001	Chris A. Barton	NAIIP014/01.128.01	8771
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Zilka-Kotab, PC P.O. BOX 721120 SAN JOSE, CA 95172-1120			EXAMINER PYZOCHA, MICHAEL J	
			ART UNIT 2437	PAPER NUMBER
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 09/916,929	<b>Applicant(s)</b> BARTON ET AL.	
	<b>Examiner</b> MICHAEL PYZOSHA	<b>Art Unit</b> 2437	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 09 February 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-13, 17-29 and 33-44 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13, 17-29 and 33-44 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

1. Claims 1-13, 17-29 and 33-44 are pending.
2. Amendment filed 02/09/2009 has been received and considered.

***Claim Rejections - 35 USC § 101***

The rejections under 35 U.S.C. 101 have been withdrawn based on the filed amendment.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 2, 4-7 8-13, 17-18, 20-24, 25-29, 33-35, 38-40, 42, and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al. (US 5960170) in view of Futral (US 6615282) and further in view of Peikari (US 20020166085).

As per claims 1, 17 and 33, Chen et al. discloses a) executing scanning control logic utilizing a central processing unit (see column 8 lines 43-54 and column 16 lines 6-65); b) identifying a request related to data at the central processing unit (see column 16 lines 29-47); c) indicating the data to a scanning co-processor coupled to the central processing unit so that the data is scanned by the scanning co-processor under control of the scanning control logic (see column 17 lines 29-40); d) waiting for results from the

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scanning co-processor (see column 20 lines 39-60); e) executing additional logic utilizing the central processing unit while waiting for the results from the scanning co-processor (see column 20 lines 25-37); f) initiating an event based on the results from the scanning co-processor (see column 20 lines 38-60); g) wherein the scanning co-processor is under the control of the central processing unit via the execution of the scanning control logic by the central processing unit (see column 16 line 29 through column 17 line 40); h) wherein it is determined whether the data meets a predetermined criteria, where the criteria is based on a type of a file associated with the data (see column 20 lines 38-60 and column 16 lines 29-39 and column 11 line 21 through column 12 line 11); i) wherein the data is sent to the scanning co-processor if it is determined that the data meets the predetermined criteria (see column 16 lines 29-39); j) wherein additional data to be scanned by the scanning co-processor is queued while waiting for the results from the scanning co-processor (see column 20 lines 25-60).

Chen et al. fails to explicitly disclose indicating the location of the data to a scanning co-processor wherein the location of the data includes a memory location of the data stored in memory, where the memory is separate from and coupled to the scanning co-processor and the central processing unit via a bus that employs direct memory access and that the scanning co-processor is capable of performing an additional scan on the additional data while scanning the data.

However, Futral teaches indicating the location of the data to a co-processor wherein the location of the data includes a memory location of the data stored in memory, where the memory is separate from and coupled to the scanning co-processor

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and the central processing unit via a bus that employs direct memory access (see column 4 lines 22-37 and column 9 lines 1-5 where the network connection is the bus) and Peikari teaches a scanning processor is capable of performing an additional scan on the additional data while scanning the data (see paragraph [0012]).

At the time of the invention it would have been obvious to a person of ordinary skill in the art to indicate the location in memory connected using a bus to the scanning co-processor of Chen et al. and for the scanning co-processor to be capable of scanning additional data while scanning other data.

Motivation to do so would have been to enable protected target-managed data transfer (see Futral column 3 lines 55-57) and to improve the efficiency of the scanning (see Peikari paragraph [0012]).

As per claims 2 and 18, the modified Chen et al., Futral and Peikari system discloses processing the data utilizing the central processing unit upon the receipt of favorable results from the scanning co-processor including a situation where malicious code is not detected (see Chen et al. column 20 lines 25-60).

As per claims 4, 7, 20, and 23, the modified Chen et al., Futral and Peikari system discloses wherein the scanning control logic includes hardware (see Chen et al. Fig 4A).

As per claim 21, the modified Chen et al., Futral and Peikari system discloses wherein the scanning control logic is stored on the scanning co-processor (see Chen et al. column 10 lines 18-51).

As per claims 6 and 22, the modified Chen et al., Futral and Peikari system discloses wherein the scanning control logic includes software (see Chen et al. column 10 lines 18-51).

As per claims 8 and 24, the modified Chen et al., Futral and Peikari system discloses wherein the event is initiated under the control of the scanning control logic (see Chen et al. column 16 lines 6-47).

As per claims 9 and 25, the modified Chen et al., Futral and Peikari system discloses wherein the scanning co-processor performs content scanning (see Chen et al. Fig 5 and column 10 lines 18-51).

As per claims 10 and 26, the modified Chen et al., Futral and Peikari system discloses wherein the scanning co-processor performs virus scanning (see Chen et al. column 10 lines 18-51 and Fig. 5).

As per claims 11 and 27, the modified Chen et al., Futral and Peikari system discloses wherein the scanning co-processor includes memory (see Chen et al. Fig 4A).

As per claims 12 and 28, the modified Chen et al., Futral and Peikari system discloses wherein virus signatures are stored in memory (see Chen et al. column 10 lines 18-51).

As per claims 13 and 29, the modified Chen et al., Futral and Peikari system discloses wherein rule sets are stored in memory (see Chen et al. column 10 lines 18-51).

As per claims 34 and 35, the modified Chen, Futral and Peikari system discloses  
j) initiating a security event upon the receipt of unfavorable results from the scanning co-

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processor including a situation where malicious code is detected (see Chen et al. column 20 lines 25-60); k) processing the data utilizing the central processing unit upon the receipt of favorable results from the scanning co-processor including a situation where malicious code is not detected (see Chen et al. column 20 lines 25-60).

As per claim 38, the modified Chen et al., Futral and Peikari system discloses wherein the criteria is further based on a user (see Chen et al. column 16 lines 29-39).

As per claim 39, the modified Chen et al., Futral and Peikari system discloses wherein the criteria is further based on software logic run by a bios (see Chen et al. column 10 lines 18-51).

As per claim 40, the modified Chen et al., Futral and Peikari system discloses wherein the scanning control logic is executed automatically (see Chen et al. column 16 lines 29-39).

As per claim 42, the modified Chen et al., Futral and Peikari system discloses wherein the scanning control logic is executed manually by a user (see Chen et al. column 16 lines 29-39).

As per claim 44, the modified Chen et al., Futral and Peikari system discloses wherein the central processing unit aids the scanning co-processor when a large amount of data is to be scanned (see Chen et al. FIG 5 and respective disclosure).

5. Claims 3, 19, 36, 41 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al. in view of Zuta (WO 98/45778).

As per claims 3 and 19, Chen et al. discloses a) executing scanning control logic utilizing a central processing unit (see column 8 lines 43-54 and column 16 lines 6-65); b) identifying a request related to data at the central processing unit (see column 16 lines 29-47); c) indicating the data to a scanning co-processor coupled to the central processing unit so that the data is scanned by the scanning co-processor under control of the scanning control logic (see column 17 lines 29-40); d) waiting for results from the scanning co-processor (see column 20 lines 39-60); e) executing additional logic utilizing the central processing unit while waiting for the results from the scanning co-processor (see column 20 lines 25-37); f) initiating an event based on the results from the scanning co-processor (see column 20 lines 38-60); g) wherein the scanning co-processor is under the control of the central processing unit via the execution of the scanning control logic by the central processing unit (see column 16 line 29 through column 17 line 40); h) wherein it is determined whether the data meets a predetermined criteria, where the criteria is based on a type of a file associated with the data (see column 20 lines 38-60 and column 16 lines 29-39 and column 11 line 21 through column 12 line 11); i) wherein the data is sent to the scanning co-processor if it is determined that the data meets the predetermined criteria (see column 16 lines 29-39); j) wherein additional data to be scanned by the scanning co-processor is queued while waiting for the results from the scanning co-processor (see column 20 lines 25-60).

Chen et al. fails to explicitly disclose that the CPU is coupled to the scanning co-processor via a bus.



Zuta teaches a similar anti-virus scanning system in which a supervisor computer (2 of Fig 2) monitors the data processed by the CPU of a first computer (11 of Fig 2) and intervenes to stop the CPU of the first computer if the supervisor computer thinks a virus might be present. Zuta also discloses that the CPU of the first computer and the scanning co-processor of the supervisor computer are coupled by a bus (17 of Fig 2).

It would have been obvious to one of ordinary skill in the art at the time the invention was filed to incorporate the ideas of Zuta with those of the modified Chen et al. system and add the use of a bus between the CPU of the first computer and the scanning co-processor of the second computer

Motivation, as recognized by one of ordinary skill in the art, to do so would have been that a bus is a commonly used method of transmitting data between two units.

As per claim 36, the modified Chen et al. and Zuta system discloses the limitations as similarly discussed above and the scanning information is updated via a network periodically (see Zuta Page 12, 2<sup>nd</sup> paragraph).

As per claim 41, the modified Chen et al. and Zuta system discloses the limitations as similarly discussed above and the scanning control logic is executed automatically when a computer is booted up (see Zuta Page 24, lines 1-3).

As per claim 43, the modified Chen et al. and Zuta system discloses the limitations as similarly discussed above and the scanning control logic is executed using software logic run by a bios (see Zuta Page 24, lines 1-3).

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6. Claim 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over the modified Chen et al., Futral and Peikari system further in view of Snavelly, (Snavelly, Allan; Tullsen, Dean. Symbiotic Jobscheduling for a Simultaneous Multithreading Processor. Published in the Proceedings of ASPLOS IX. November 2000).

As per claim 37, the modified Chen et al., Futral and Peikari system fails to explicitly disclose the use of multi-threading algorithms.

However, Snavelly teaches that multi-threading algorithms are an effective way to “increase system utilization and speedup the execution of jobs” (see Snavelly Abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was filed to incorporate the ideas of Snavelly with those of the modified Chen et al., Futral and Peikari system and use multi-threading algorithms

Motivation to do so would have been that multi-threading algorithms are an effective way to deal with multi-job processing such as with additional logic to be executed or additional data queued to be scanned.

### ***Response to Arguments***

7. Applicant's arguments with respect to claims 1-13, 17-29 and 33-44 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL PYZOCHA whose telephone number is

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(571)272-3875. The examiner can normally be reached on Monday-Thursday, 7:00am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Emmanuel Moise can be reached on (571) 272-3865. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael Pyzocha/  
Examiner, Art Unit 2437